



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

K

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,774	09/26/2001	Jeffrey W. Nichols	EPH / 33	1743

26875 7590 10/23/2003
WOOD, HERRON & EVANS, LLP
2700 CAREW TOWER
441 VINE STREET
CINCINNATI, OH 45202

EXAMINER

THOMPSON, KENNETH L

ART UNIT	PAPER NUMBER
	3679

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/963,774	NICHOLS, JEFFREY W.
	Examiner	Art Unit
	Kenn Thompson	3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 June 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1,3-18 and 30-34 is/are allowed.
- 6) Claim(s) 19,20 and 24-29, 35 and 36 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because additional information such as the title of the invention should not appear on the abstract page.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rohrig, U.S. 4,717,370.

Regarding claim 19, Rohrig discloses in figures 1-2 a torsional vibration damper. Rohrig discloses an annular inertia ring (3) substantially centered about an axis. Rohrig discloses an elastomeric layer (5) disposed radially inward from the inertia ring. Rohrig discloses a polymer body (4) disposed radially inward from the elastomeric layer the polymer body having a first cylindrical surface substantially collinear with the axis. Rohrig discloses an insert (7) positioned radially inward of the polymer body and formed of a structurally rigid material. Rohrig discloses the insert including a second cylindrical surface confronting the first cylindrical surface and a plurality of protrusions splines (8) that extend radially outward from the second cylindrical surface into the polymer body (col. 3, lines 37-46), the splines being aligned substantially parallel to the axis. Rohrig discloses the splines providing torque-locking structure that

mechanically interlocks the polymer body (4) with the insert so that the polymer body resists rotation relative to the insert.

As to claim 20, Rohrig discloses the structurally rigid material is a metal (7; cross-hatch indicates metal) and the protrusions splines are integrally formed with the insert.

Claim 35 is rejected under 35 U.S.C. 102(b) as being anticipated by, Geislinger, U.S. 6,293,871.

Regarding claim 35, Geislinger discloses in figures 1-4 a hub (1) mountable to a shaft (8). Geislinger discloses an insert (13) having an outer peripheral surface. Geislinger discloses an annular polymer body (2) including an inner peripheral surface defining a bore. Geislinger discloses in figure 3 the inner peripheral surface being generally coextensive with the outer peripheral surface of the insert (13) for positioning the insert in the bore. Geislinger discloses the polymer body being formed of a composite including a polyamide matrix (3; any of numerous natural and synthetic compounds of usually high molecular weight consisting of up to millions of repeated linked units) and a reinforcing filler (4; col. 3, lines 13-21) dispersed within the polyamide matrix.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andra, U.S. 5,024,120 in view of Fukahori et al., U.S. 4,899,323.

Regarding claim 24, Andra discloses an annular inertia ring (20). Andra discloses an elastomeric layer (3) disposed radially inward from the inertia ring. Andra discloses a polymer body (5) disposed radially inward from the elastomeric layer and having an inner peripheral surface. Andra discloses the polymer body being formed of a polyamide composite (col. 3, lines 57-59; plastic) including a polyamide matrix (any of numerous natural and synthetic compounds of usually high molecular weight consisting of up to millions of repeated linked units). Andra discloses an insert (1) disposed radially inward from the polymer body, the insert being formed of a first structurally rigid material and having an outer peripheral surface being generally coextensive with the inner peripheral surface of the polymer body. Andra does not disclose the polyamide composite having a reinforcing filler. Fukahori et al. teaches use of a polyamide composite having a reinforcing filler (col. 4, lines 60-68) to increase the strength of the material. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the polyamide composite inherently made of a polyamide matrix (any of numerous natural and synthetic compounds of usually high molecular weight consisting of up to millions of repeated linked units) disclosed by Andra to have a reinforcing filler of a relatively rigid material; as taught by Fukahori et al. to increase the strength of the material. Moreover it has been held (and apparently illustrated in the specification pages 14 and 15) to be within the general skill of a worker in the art to select a *known* material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andra, U.S. 5,024,120 in view of Fukahori et al., U.S. 4,899,323 as applied to claim 24 and in further view of Patterson, U.S. 5,112,282.

As to claims 25 and 27, Andra in view of Fukahori et al. discloses a reinforcing filler. Andra in view of Fukahori et al. does not disclose the reinforcing filler is glass. Patterson teaches use of a reinforcing glass filler including a plurality of glass fibers (col. 4, lines 52 – col. 5, line 2) as a matter of convention. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the filler disclosed by Andra in view of Fukahori et al. to be glass including a plurality of glass fibers; as taught by Patterson to adhere to conventional practice; see *In re Leshin*, 125 USPQ 416.

As to claim 26, Patterson teaches use of the reinforcing filler having polyamide composite based on a nylon-copolymer (col. 4, lines 63-65).

As to claim 28, Andra discloses the polyamide (col. 3f, lines 55-59; plastic). Andra does not disclose the polymer is mechanically stable at a temperature of at least about 230 degrees F. Patterson teaches use of a polymer that is mechanically stable at a temperature of at least about 230 degrees F to improve performance characteristics at high temperatures (col. 3, lines 41-45). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the polymer disclosed by Andra to be mechanically stable at a temperature of at least about 230 degrees F as taught by Patterson to improve performance characteristics at high temperatures. See *In re Leshin*, 125 USPQ 416.

As to claim 29, Andra discloses the structurally rigid material forming the insert is metal (col. 3, lines 60-62).

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geislinger, U.S. 6,293,871 in view of Patterson, U.S. 5,112,282.

As to claim 36, Geislinger discloses the reinforcing filler is a fiber. Geislinger is silent as to whether the reinforcing filler is glass, ceramics or carbon. Patterson teaches use of a reinforcing filler that is glass, ceramics or carbon (col. 4, lines 60-65) to improve polymer performance under dynamic loading. It would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the fiber reinforcement disclosed by Geislinger to be glass, ceramics or carbon as taught by Patterson to improve polymer performance under dynamic loading which will ultimately extend the life of the torsional vibration damper.

Allowable Subject Matter

Claims 1 and 3-18, 30-34 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose or suggest all the claimed subject matter including the polymer body includes an annular wall having a first annular surface, a second annular surface opposite the first annular surface and a service port extending through the annular wall between the first and second surfaces, the service port being positioned radially outward from the support flange.

The prior art does not disclose or suggest the insert including a plurality of support flanges projecting radially outward into the polymer body and adjacent ones of the plurality of support flanges having an angular spacing about a circumference of the insert.

Response to Arguments

Applicant's arguments filed 26 June 2003 with respect to claims 19 and 20 have been fully considered but are moot in view of the new grounds of rejection.

Applicant's arguments filed 26 June 2003 with respect to claims 24-29 have been fully considered but they are not persuasive.

In response to applicant's argument that Fukahori et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Fukahori et al. is concerned with improving the performance and durability of elastic material (see Fukahori et al., col. 4, lines 22-29).

Applicant argues the plastic disclosed by Andra is not a polymer, polyamide nor the plastic being a composite. However a plastic being any number of organic synthetic or process materials that are mostly thermoplastic or thermosetting polymers of high molecular weight, and not a fundamental, essential, or irreducible constituent of a composite; also in conjunction with the necessity to give a claim the broadest reasonable interpretation; the claimed polymer and polyamide are both considered to be plastics which is inherently a composite.

In response to applicant's argument that Patterson is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Patterson discloses an improved elastomeric material made suitable to perform in elevated temperatures.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 703 306-5760. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703 308-1159. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9327.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-2168.

KT
October 17, 2003


Lynne H. Browne
Supervisory Patent Examiner
Group 3600